REMARKS

This application has been reviewed in light of the Office Action dated November 1, 2006. Claims 1-3 and 5-18 are presented for examination, of which Claims 1, 5, 10 and 16 are in independent form. Claims 1, 5, 10 and 16 have been amended to define still more clearly what Applicants regard as their invention. Favorable reconsideration is requested.

The specification has been amended to conform the Summary of Invention section to the amended claims.

An Information Disclosure Statement is being filed concurrently herewith.

Claims 1-3 and 5-18 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Yoshifumi Kitamura and Fumio Kishino, Consolidated Manipulation of Virtual and Real Objects, Sept. 1997, Proceedings of the ACM Symposium on Virtual Reality Software and Technology, pp. 133-138.

As shown above, Applicants have amended independent Claims 1, 5, 10 and 16 in terms that more clearly define what they regard as their invention. Applicants submit that these amended independent claims, together with the remaining claims dependent thereon, are patentably distinct from the cited prior art for at least the following reasons.

As described in paragraph [0005] of the of the specification,[1] an object of the present invention is "to enable dynamic creating of constraining shapes in a compounded real space, and to enable easy operating of virtual objects using constraining shapes even where constraining shapes have not been registered beforehand." In order to create the constraining

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1/ It is to be understood, of course, that the claim scope is not limited by the details of the described embodiments, which are referred to only to facilitate explanation.

shape dynamically in accordance with a user's instruction when said user operates the virtual image, Claim 10 is directed to an information processing method for changing the position and orientation of a virtual object in mixed reality space obtained by combining a real space and a virtual space. The method includes the steps of: (1) obtaining three-dimensional position information of a plurality of positions designated by an operating unit moved by a user in the real space; (2) obtaining a constraining shape based on the obtained three-dimensional position information; (3) changing the position and orientation of the virtual object according to instructions from the user, based on the obtained constraining shape as constraint condition; and (4) combining an image of the virtual object generated according to the changed position and orientation, and the real image, to obtain a mixed reality image.

By virtue of the structure of the present invention, it is possible to create a constraining shape in accordance with the instruction of a user who manipulates the virtual object.

Kitamura relates to a method of manipulating virtual and real objections in mixed reality by employing a limited number of physical laws selected and simulated for virtual objects and introducing limitations on the physical laws for real objects. Kitamura discusses manipulating the virtual object in mixed reality (Fig. 2) using a six degrees of freedom (DOF) tracker (Kitamura, p. 135). "The shape of the real object is known in advance" and the "DOF of the virtual object's motion is dynamically constrained on the surface of the collided objects." (Kitamura, p. 135). Kitamura also discusses detecting object collision using a method of real-time colliding face detection of polydedral objects with complicated shapes. However, Kitamura discloses that the constraining shape as constraint condition is calculated based on the geometric

model of the object, which is kept in advance, and does not even suggest creating the constraining shape in accordance with the instruction of a user who manipulates the virtual object, as shown in the present invention. Thus, Applicants have found nothing in Kitamura that would teach or suggest "obtaining three-dimensional position information of a plurality of positions designated by an operating unit moved by a user in the real space", "obtaining a constraining shape based on the obtained three-dimensional position information" or "changing the position and orientation of the virtual object according to instructions from the user, based on the obtained constraining shape as constraint condition", as recited in Claim 10 (emphasis added).

A review of the other art of record has failed to reveal anything which, in Applicant's opinion, would remedy the deficiencies of the art discussed above, as a reference against Claim 10.

Independent Claims 1, 5 and 16 recite features similar to those discussed above with respect to Claim 10 and, therefore, are also believed to be patentable over Kitamura for the reasons discussed above.

The other claims in this application are each dependent from one or another of the independent claims discussed above and are therefore believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

This Amendment After Final Action is believed clearly to place this application in condition for allowance and, therefore, its entry is believed proper under 37 C.F.R. § 1.116.

Accordingly, entry of this Amendment After Final Action, as an earnest effort to advance prosecution and reduce the number of issues, is respectfully requested. Should the Examiner believe that issues remain outstanding, it is respectfully requested that the Examiner contact Applicants' undersigned attorney in an effort to resolve such issues and advance the case to issue.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and early passage to issue of the present application.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,

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